ACCESSION NO: AP4019476 S/0133/64/000/003/0233/0233

AUTHORS: Frantsov, V. P. (Engineer); Moshkevich, Ye. I. (Candidate of technical sciences); Khitrik, A. I. (Engineer)

TITLE: Improving the plasticity of pipe products made of steel Kh18N10T with nickel content of 9-10% (in collaboration with the Yuzhnotrubnyy plant)

SOURCE: Stal', no. 3, 1964, 233

TOPIC TAGS: steel Kh18N10T, plasticity, pipe product, chromium content, ferrocerium, oxygen content, nitrogen content, ferrite fraction

ABSTRACT: Steel was poured in the usual way, but its nickel content was lowered to 9.5-10% while chromium was held to 17.6-18%. Ferrocerium (0.75-1.2 kg/T) was added to the batch 3-10 minutes before drawing and during drawing into a ladle. This process lowered the oxygen content by 55% and the content of nitrogen by 15%. An improvement of steel plasticity was observed. This was explained by the smaller ferrite fraction present in the metal. Pipes produced from this material were equal to those made of steel Kh18N10T with nickel content of 10.4-11.0%.

Card 1/1

ACCESSION NR: AP4019473 S/0133/64/000/003/0228/0228

AUTHORS: Frantsov, V. P. (Engineer); Moshkevich, Ye. I. (Candidate of technical sciences); Khitrik, A. I. (Engineer)

TITLE: /Osvoyeniye...stali EI711.../ Mastering the production of steel EI711 (Kh14G14N3T) for sheet metal (in collaboration with TsNIIChM)

SOURCE: Stal', no. 3, 1964, 228

TOPIC TAGS: steel, steel EI711 (Kh14G14N3T), steel production, sheet metal, melting temperature, rolling cracks, ferrite, austenite, steel Kh13G14N3(DI 6), steel composition

ABSTRACT: Melting was done by the method developed for steel Kh18N10T. The ladle temperature of the metal was about 1500-1530C. In rolling 12-ton ingots large cracks developed in the metal due to inclusions of ferrite and austenite. The present investigation led to the development of a new steel Kh13G14N3(DI-6). Its composition (in %) is:

C	Mn	Cr	Ni
0.10—0.14	13—15	12.5—14.0	2.8—3.5

Si	Ti	P	S
< 0.7	< 0.10	< 0.035	< 0.030

Card 1/2

ACCESSION NR: AP4019473

Because its structure was almost monophase (less than 5% of ferrite) the new steel was highly plastic and satisfied the demands of its users.

ASSOCIATION: none

SUBMITTED: 00	DATE ACQ: 27Mar64	ENCL: 00
SUB CODE: ML	NO REF SOV: 000	OTHER: 000

Card 2/2

ACCESSION NR: AP4019478 S/0133/64/000/003/0233/0233

AUTHORS: Frantsov, V. P. (Engineer); Moshkevich, Ye. I. (Candidate of technical sciences); Khitrik, A. I. (Engineer)

TITLE: /Ustanovleniye optimal'noy velichiny*.../ Determining the optimum amount of bottom trimming for ingots and reducing the carbide streaks in steel ShKh15V

SOURCE: Stal', no. 3, 1964, 233

TOPIC TAGS: ingots, bottom trimming, carbide streak, steel ShKh15V, remelted steel, scrap, steel homogenizing, decarbonized layer

ABSTRACT: It was learned in the course of removing the defect known as "spotty liquefaction" from remelted ShKh15V ingots that the amount of bottom trimming can be reduced from 20-25% to 6-7%. It was also learned that carbide streaking could be diminished by reducing the size of scrap. Forging and rolling had no influence of the development of carbide streaks. Homogenizing the ingots for 10 hours at 1160C lowered the latter defect by 0.5 point. The best results were obtained by homogenizing 100-mm squares, but the process necessitated the removal of the decarbonized layer. A scale for standardizing the estimates of carbide

Card 1/2

ACCESSION NR: AP4019478

streakiness has been worked out.

ASSOCIATION: none

SUBMITTED: 00	DATE ACQ: 27Mar64	ENCL: 00
SUB CODE: ML	NO REF SOV: 000	OTHER: 000

Card 2/2

ACCESSION NR: AP4019471 S/0133/64/000/003/0228/0228

AUTHORS: Frantsov, V. P. (Engineer); Moshkevich, Ye. I. (Candidate of technical sciences); Khitrik, A. I. (Engineer)

TITLE: /Vliyaniye dobavok.../ The influence of rare earth elements and of their oxides on the properties of stainless steels (in collaboration with Giredmet)

SOURCE: Stal', no. 3, 1964, 228

TOPIC TAGS: stainless steel, stainless steel property, rare earth element, rare earths oxide, induction furnace IV 60, Mishima alloy, ferrocerium, lanthanum, cerium oxide, praseodymium, carbonitride inclusion, titanium, steel Kh18N10T, steel Kh17N13M2T

ABSTRACT: Mishima alloy, ferrocerium, lanthanum with cerium oxide, and lanthanum with praseodymium were added to experimental batches of stainless steels Kh18N10T, Kh23N18, and Kh17N13M2T melted in induction furnace IV-60 of 45-kg capacity. Addition of Mishima alloy to titanium steel lowered the amount of carbonitride inclusions. Plasticity of steel Kh18N10T and steel Kh17N13M2T was improved when 0.1% of Mishima alloy was added to the former and 0.15% to the latter. No change

Card 1/2

ACCESSION NR: AP4019471

of plasticity was noted when oxides of rare earth elements were added to steel.

ASSOCIATION: none

SUBMITTED: 00	DATE ACQ: 27Mar64	ENCL: 00
SUB CODE: ML	NO REF SOV: 000	OTHER: 000

Card 2/2

S/0133/64/000/003/0233/0233

ACCESSION NR: AP4019479

AUTHORS: Frantsov, V. P. (Engineer); Moshkevich, Ye. I. (Candidate of technical sciences); Knitrik, A. I. (Engineer)

TITLE: [Issledovaniye...] Investigating the possibility of rolling difficult to work steels in mill 550

SOURCE: Stal', no. 3, 1964, 233

TOPIC TAGS: steel rolling, steel Kh17N2, steel EI811, steel Kh18N12M2T, steel Kh23N18, steel EI481, steel heating, steel soaking

ABSTRACT: A successful process for rolling 180-mm square shapes of steels Kh17N2 and EI811 was perfected. For consistent production with clear, unscarred surfaces, the metal is heated to 1320C and soaked at 1300C for 40 minutes. A process for rolling 180-mm square shapes of steels Kh18N12M2T, 3T, Kh23N18, and EI481 was also developed.

ASSOCIATION: Elektrometallurgicheskiy zavod "Dneprospetsstal'" im. A. N. Kuz'mina

Card 1/2

ACCESSION NR: AP4019479

(Electrometallurgical plant "Dneprospetsstal'")

SUBMITTED: 00 DATE ACQ: 27Mar64 ENCL: 00

SUB CODE: MM NO REF SOV: 000 OTHER: 000

Card 2/2

ACCESSION NR: AP4041869 S/0133/64/000/007/0640/0642

AUTHOR: Gabuyev, G. Kh.; Yel'tsov, K. S.; Shul'te, Yu. A.; Mikhaylov, P. A.; Garevskikh, I. A.; Leybenzon, S. A.; Tsivirko, E. I.; Medovar, B. I.; Latash, Yu. V.; Frantsov, V. P.; Pakhomov, A. I.; Kaganovskiy, G. P.; Voinov, S. G.; Shalimov, A. G.; Kalinnikov, Ye. S.; Smolyakov, V. P.; Kosoy, L. F.

TITLE: Improvement of the quality of electroslag-melted ball-bearing steel

SOURCE: Stal', no. 7, 1964, 640-642

TOPIC TAGS: ball bearing steel, electroslag melted steel, high purity steel, steel electroslag melting

ABSTRACT: Several variants of electroslag melting have been tested in an attempt to improve the quality of ball-bearing steel. The analysis of electroslag-melted steel showed that nitrides and carbonitrides constitute the greatest part (up to 75%) of the nonmetallic inclusions present in the steel. These nitrides derive from the initial material. The electroslag process eliminates large nitrides over 20μ in diameter, but does not eliminate the smaller ones.

Card 1/3

ACCESSION NR: AP4041869

Therefore, the nitrogen and titanium contents of the initial metal must be reduced to a minimum. This can be done, for example, by refining the metal in the ladle with synthetic slag. Electroslag melting of open-hearth steel refined with synthetic slag eliminated all the inclusions larger than 10μ and reduced the number of smaller inclusions by more than 50% and the nitrogen and oxygen contents to 0.0053 and 0.0020%, respectively. To produce ultra-high purity ball-bearing steel, the double electroslag melting was applied with a combination of various fluxes. The use of ANF-6-ANF-6 fluxes in double electroslag melting or of AN-29-ANF-6 fluxes produced best results. Ultra-high purity steel, fully satisfying requirements for critical ball bearings, was obtained. Orig. art. has: 2 figures.

ASSOCIATION: Dneprospetsstal' (Dneprospetsstal' plant); Zaporozhskiy mashinostroitel'nyy institut (Zaporosh Machine-Building Institute); Institut elektrosvarki im Ye. O. Patona (Electric Welding Institute); TsNIICHM

Card 2/3

FRANTSOV, V. P.

L 11329-65 EWT(m)/EWP(w)/EWP(t)/EWP(b) ASD(m)-3 MJW/JD/JT

ACCESSION NR: AP4041870 S/0133/64/000/007/0642/0645

AUTHOR: Alekseyenko, M. F., Vasilenko, G. I., Natapov, B. S., Orekhov, G. N., Pridantsev, M.V., Frantsov, V. P.

TITLE: Case-hardening and heat-treatable steels DI-2, DI-3, DI-3A (EP176) and DI-4

SOURCE: Stal', no. 7, 1964, 642-645

TOPIC TAGS: steel, case hardening steel, heat treatable steel, PI steel, low nickel steel, hardening temperature, tempering, steel mechanical property

ABSTRACT: The authors developed a group of low-nickel case-hardening steels which, in terms of their physical and mechanical properties, are comparable to the high-nickel steel currently used for high-stress pieces in the machine-building industry and which possess optimal properties of the case-hardened layer in finished items. The low-nickel steels DI-2 (18KhGSN2MVA) and DI-4 (18KhGSN2MA) were developed to replace steels 18Kh2N4VA and 20Kh2N 4VA, while steel DI-3A or EP176 was designed to replace steels 12KhN3A and 12Kh2N4A. The abbreviation "DI" used in connection with these newly-developed types stands for "dneprospetsstal'skaya issledovatel'skaya" or "Dneprospetsstal'

Card 1/4

L 17379-65

ACCESSION NR: AP4041870

Experimental". The expenditure of nickel for the new steels averages 20 - 25 kg/ton less than for the old. Steel DI-3, which does not contain molybdenum, is recommended exclusively as a replacement for type 12KhN3A steel. The molybdenum in DI-3 steel may be completely or partially substituted by tungsten in the ratio Mo : W = 1 : 3. In the development of the new types, provision was made to use the chromium-nickel-molybdenum steel scraps available in large quantities throughout the country. Particular attention was directed at the proper proportions of elements which promote and impede case-hardening. For this purpose on specially smelted low-carbon alloys, a study was made of the mutual effect of the basic alloying elements (Cr, Mn, Si, Ni, W, Mo, V) on the carbon concentration in the layer. It was discovered that the greatest effect is exerted by chromium and silicon. The permissible limits (upper and lower) of the content of the basic elements in the new steels are shown in a table. No more than 0.06% vanadium and no more than 0.03% sulfur and phosphorus is permitted in the new steels. The physical and mechanical properties of the steels were thoroughly tested. When the effect of the hardening temperature in the 800 - 950C range on the mechanical properties of the steels was tested, both DI-2 and DI-3 showed high strength and plasticity, with an optimal hardening temperature at 820 - 860C. The effect of the

Card 2/4

L 11379-65

ACCESSION NR: AP4041870

tempering temperature on the mechanical properties of type DI-2 steel was also studyies and high tempering was recommended in an interval of 630 - 600C. It was further recommended that steel DI-2 be used for air hardening in a disk to 80 mm, and with oil hardening to 150 - 200 mm. Steel DI-3A and DI-4A are recommended for sections to 80 mm, and steel DI-3 - to 40 mm. The effect of long-term high-temperature heating on the new types was found to be negligible. These steels are distinguished by fine grain, the size of which, on heating to 1,000C, remains within 7-6 units. In terms of resilience (impact ductility), the new steels are comparable to high-alloy steels and retain rather good impact toughness even at a temperature of -196C. The article indicates that the new steels are highly resistant to notching (incising). For case-hardened items which operate under conditions of variable loads, an important characteristic is the endurance limit, which for these new economical steels is equal to that of high-nickel steels. A layer-by-layer chemical analysis showed that the carbon saturation of the case-hardened layer and its depth are the same in the new steels as in the high-alloy steels, but that the content of residual austenite is smaller. A further advantage of the new steels is the higher weakening temperature during tempering, which makes it possible to recommend them for items designed to function at temperatures up to 250 - 300C. The new low-cost steels also lend themselves well to nitriding. "V. Ye. Pronin, G. Kh. Gabuyev, Yu. P. Shamil', T. M. Babkov,

Card 3/4

L 11379-65

ACCESSION NR: AP4041870

L. I. Yefremova, I. P. Banas, M. S. Kunin, G. V. Kuly*gin, Ye. L. Bushmanova, L. G. Kozy*reva, S. Z. Yudovich, P. I. Sidyarov, D. D. Tishchenko, V. M. Doronin and T. V. Lovchenko also took part in the work." Orig. art. has: 1 table.

ASSOCIATION: none

SUBMITTED: 00 DATE SEL: 30Jul64 ENCL: 00

SUB CODE: MM NO REF SOV: 002 OTHER: 000

Card 4/4

L 51302-65 EWT(m)/EWP(z)/EWP(b)/EWA(d)/EWP(t) JD/MJW
ACCESSION NR: AP5016416 UR/0133/64/000/010/945/945

AUTHOR: Frantsov, V.P. (Engineer); Khitrik, A.I. (Engineer) 13

TITLE: Improvement in the reduction of steel 20Kh15N3MA / 8

SOURCE: Stal', no. 10, 1964, 945

TOPIC TAGS: steel, metallurgic process/20Kh15N3MA steel

TRANSLATION: Steel 20Kh15N3MA (DI-1) was poured into round casts weighing 1 ton which after annealing and scalping were forged into bars and electrodes for electroslag remelting. In connection with the lack of forging means, ingots weighing 2.8 tons were rolled into electrodes for electroslag remelting. The optimal technology for reducing ingots on an 825 mill was as follows: raising the metal temperature in the heating compartment from 800°C at a maximum rate to 1200°C, soaking at this temperature for 3 minutes per cm of cross section, and rolling with reductions of 25-30 mm per pass.

ASSOCIATION: none

SUBMITTED: 00 ENCL: 00 SUB CODE: MM

NO REF SOV: 000 OTHER: 000 JPRS

Card 1/1

KHASIN, G.A.; DAVIDYUK, V.N.; FRANTSOV, V.P., inzh.; KHITRIK, A.I., inzh.; MATVEYEV, Yu.M.; VARNAVSKIY, I.; RYSYUKOV, N.; ZHURAVLEV, S.

New developments in research. Stal' 24 no.10:880, 898, 909, 917, 930, 942, 946 O '64. (MIRA 17:12)

SHEVCHENKO, Z.A.; FRANTSOV, V.P.; POTAPOVA, V.P.; SPEKTOR, Ya.I.

Nature of large nonmetallic inclusions in ball bearing electric steel. Stal' 25 no.5:452-454 My '65. (MIRA 18:6)

1. Zavod "Dneprospetsstal'".

L 2364-66 EWT(m)/EWA(d)/EWP(t)/EWP(k)/EWP(z)/EWP(b)/EWA(c) MJW/JD/HW/
ACCESSION NR: AP5019947 UR/0133/65/000/008/0752/0753
669.187.26

AUTHORS: Yudovich, S. Z.; Abramov, V. V.; Gabuyev, G. Kh.; Frantsov, V. P.; Smolyakov, V. F.; Sypko, A. V.; Travinin, V. I.; Potapova, V. P.

TITLE: Effects of smelting and working methods on the properties of heat resistant stainless steel DI-1

SOURCE: Stal', no. 8, 1965, 752-753

TOPIC TAGS: stainless steel property, stainless steel smelting, hot rolling, forging/ DI 1 steel alloy, 20Kh15N3MA steel alloy

ABSTRACT: The effects of smelting and hot working methods on the properties of stainless steel DI-1 (20Kh15N3MA) were investigated. The metal was melted in 20-ton arc furnaces, poured into 2850 and 1000 kg ingots, part of which were hot rolled and part forged into 170- to 180-mm diameter rods. Part of the smelt was electroslag remelted and also forged or hot rolled into rods. During forging the ingots were heated to 1160-1180C, reduced to 200 x 200 mm blanks (850-900C), slowly cooled to 100-150C, reheated to 1160-1180C for final forging into rods (final temperature, 850-900C), and annealed at 660C. For hot rolling the blanks were placed at 750-800C in a recovery furnace. It was found that after remelting the oxide and sulfide

Card 1/2

L 2364-66
ACCESSION NR: AP5019947

2

content in DI-1 dropped from ball 4 and 2 (coarse scale) to ball 1.0-1.5 and 0.5 respectively. The α-phase content also decreased as did the O_2 (by a factor of 2-3) and H_2 (factor of 2) contents. The properties of the arc smelted (DI-1) and resmelted (DI-1Sh) steels after heat treatment were σ_B = 102.5 kg/mm^2, δ = 12%, a_K = 6.0 kgm/cm^2 and 107, 16.5, and 6.2 respectively. The type of hot working method (forging or hot rolling) had no appreciable effect on any of the properties, but in both cases plasticity dropped sharply for working temperatures above 1200C (because of increased α-phase formation). Orig. art. has: 2 figures.

ASSOCIATION: none

SUBMITTED: 00 ENCL: 00 SUB CODE: MM

NO REF SOV: 000 OTHER: 000

BVK
Card 2/2

ACC NR: AP6032200 EWT(m)/EWP(t)/ETI/EWP(k) IJP(c) JD/HW/JG

SOURCE CODE: UR/0133/66/000/010/0947/0947

AUTHOR: Yudovich, S. Z.; Abramov, V. V.; Sypko, A. V.; Frantsov, V. P.; Travinin, V. I.; Borisenko, I. G.

ORG: none

TITLE: Forgeability of heat-resistant DI-1 stainless steel

SOURCE: Stal', no. 10, 1966, 947

TOPIC TAGS: heat resistant steel, stainless steel, martensitic steel, chromium nickel molybdenum steel, steel forging, PHASE COMPOSITION /DI-1 stainless steel

ABSTRACT: The forgeability of heat-resistant DI-1 stainless steel is affected by the following factors: chemical composition, amount of impurities, microstructure, surface condition of the ingot and phase composition. The decisive factor, however, was found to be the alpha-phase content. The amount of α-phase at 1200C varies between 3 and 8% (depending on the holding time) and between 9—20% at 1250C. The α-phase content affects negatively the elongation and reduction of area. To improve forgeability, the heating of ingots from 900C to 1200C should be done as fast as possible, the holding time at 1200C should not be less than 3 min per cm of cross section, and the absolute reduction should not be more than 25—30 mm per pass. The best chemical

Card 1/2

UDC: 669.14.018.45

L 06193-67
ACC NR: AP6032200

composition was established as follows: carbon 0.19—0.21%, manganese 0.33—0.38%, silicon 0.22—0.30%, chromium 15.0—15.5%. Orig. art. has: 2 figures.

SUB CODE: 11,13/ SUBM DATE: none/ ORIG REF: 001

Card 2/2 afs

L 42922-66 EWT(m)/EWP(t)/ETI IJP(c) JD/JI
ACC NR: AP6029056 SOURCE CODE: UR/0413/66/000/014/0082/0082

INVENTOR: Averchenko, P. A.; Alekseyenko, M. F.; Babakov, A. A.; Babitskaya, A. N.; Batrakov, V. P.; Bondarenko, A. L.; Gabuyev, G. Kh.; Yel'tsov, K. S.; Kulygin, G. V.; Lola, V. N.; Orekhov, G. N.; Pridantsev, M. V.; Sklyarov, P. I.; Smolyakov, V. F.; Soroko, L. N.; Solov'yev, L. L.; Frantsov, V. P.; Shamil', Yu. P.; Moshkevich, Ye. I.; Natanov, B. S.

ORG: none

TITLE: Stainless steel. Class 40, No. 183947.

SOURCE: Izobret prom obraz tov zn, no. 14, 1966, 82

TOPIC TAGS: stainless steel, chromium titanium steel, molybdenum containing steel, nitrogen containing steel, titanium containing steel

ABSTRACT: This Author Certificate introduces a stainless steel containing chromium, molybdenum, and nitrogen. In order to improve weldability, the steel has the following composition: 0.08% C, up to 0.8% Mr, up to 0.8% Si, 15—18% Cr, 0.2—0.6% Mo, 0.04—0.15 N, 0.4—1.2% Ti, up to 0.035 S, and up to 0.030 P. [WW]

SUB CODE: 11/ SUBM DATE: 30Jan65/ ATD PRESS: 5015

Card 1/1 UDC: 669.14.018.8: 669.15'26-194

ACC NR: AP6022506 SOURCE CODE: UR/0133/66/000/004/0323/0326

38

AUTHORS: Moshkevich, Ye. I. (Candidate of technical sciences); Gabuyev, G. Kh.; 37 Smolyakov, V. F.; Frantsov, V. P.; Grayfer, Ye. Z.; Spektor, Ya. I.; Lavrent'yev, M. I. (Engineers); Yelinson, G. L. (Engineer)

ORG: none

TITLE: Manufacture of high-alloy steels with normalized phase composition

SOURCE: Stal', no. 4, 1966, 323-326

TOPIC TAGS: alloy steel, chromium steel alloy, high alloy steel / Kh16N9M2 alloy steel, OKh18N10 alloy steel, Kh18N9 alloy steel, O4Kh17N10M2 alloy steel

ABSTRACT: The possibility of obtaining stainless steels and intermediate type steels having a normalized phase composition (1 - 5% ferrite) under industrial conditions was studied. The experiments were carried out in electrical furnaces of 5—50 tons capacity, on charges consisting of fresh steel and scrap metal respectively. The α-phase content in the steels was maintained by chromium, nickel, and carbon additions. The phase composition was determined after the method of S. A. Iodkovskiy and N. N. Sashchin (Trudy TsNIITMASha No. 13 (Vyplavka stali i proizvodstvo stal'nykh otlivok), ONTI TsNIITMASh, 1960). The experimental results are presented in graphs and tables (see Fig. 1). It was found that alloying with

Card 1/3 UDC: 669.187.2

ACC NR: AP6022506

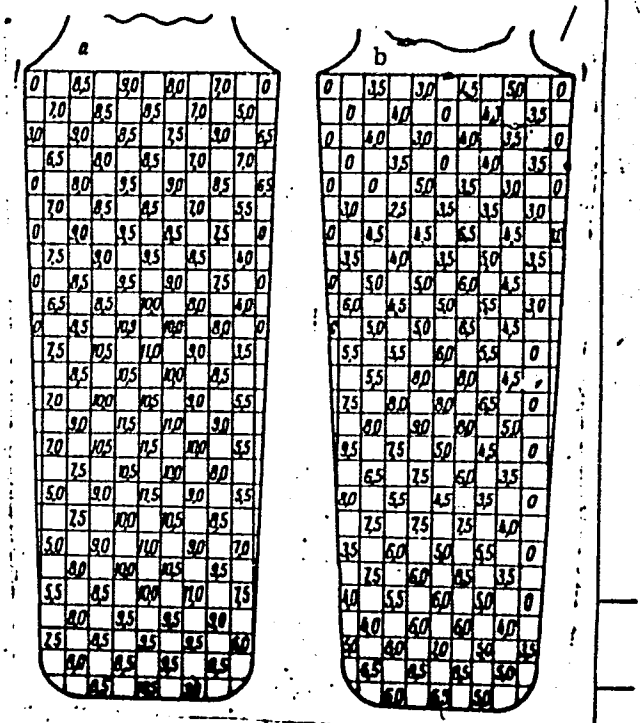

Fig. 1. Distribution of ferrite (9.) in 2.8-ton ingots a and b of steel OKh16N9M2. Initial composition of ingot (a) and (b) respectively: C - 0.06, 0.07%; Mn - 1.0, 1.24%; Si - 0.40, 0.18%; Cr - 15.46, 15.60%; Ni - 9.0, 9.04%

Card 2/3

L 10453-67

ACC NR: AP6022506

6

Al-Ni as recommended by P. I. Melikhov, A. N. Boyarinova, i dr. (Stal', 1964, No. 4) was unnecessary. All specimens smelted had satisfactory mechanical and technological properties. N. N. Sashchin, V. S. Dub, P. M. Grashchenkov, I. A. Barmotin, and others took part in the experiments. Orig. art. has: 2 tables and 1 graph.

SUB CODE: 11/ SUBM DATE: none/ ORIG REF: 004

Card 3/3 bmp

FRANTSOVA, V.

CZECHOSLOVAKIA / Pharmacology, Toxicology. Histamine and Antihistaminic Agents U-4

Abs Jour : Referat Zh.-Biol., No 1, 1958, No 3419

Author : Frantsova V., Gais I.M.

Inst : Not given

Title : A Comparison of the Exchange of Diphenhydramine Hydrochloride and its Analogues in Rats.

Orig Pub : Chemotherapeutika. I. Formac. sympos., Praha, 1956, 50

Abstract : No abstract.

Card : 1/1

FRANTSOVÁ, V.; FRANTS, Z.; LAMPLOVA, I.

Developmental and species differences in the distribution of phenothiazine derivatives in the tissues of pregnant rabbits and rats and their fetuses. Physiol. bohemoslov. 12 no.2:150-155 '63.
(CHLORPROMAZINE) (MATERNAL-FETAL EXCHANGE)
(PREGNANCY, ANIMAL) (METABOLISM) (PHENOTHIAZINES)

S/133/62/000/003/003/00
A054/A127

AUTHORS: Frantsov, V. P., Malikov, G. P., Ratner, Z. M., Moshkevich, Ye. I., Engineers

TITLE: Casting stainless steel with magnesium-alloy chips

PERIODICAL: Stal', no. 3, 1962, 238 - 239

TEXT: Magnesium has a high affinity to oxygen and nitrogen. When magnesium is added during pouring, it binds the oxygen and nitrogen of the ingot-mold atmosphere which has a favorable effect on the metal quality . Tests were carried out with bottom-cast 2.85-ton ingots of 1Х18Н9Т (1Kh18N9T) stainless steel. Prior to casting, the ingot molds were cleaned, blown through with air, covered, but not coated. The amount of magnesium necessary to bind the oxygen of the ingot mold atmosphere is 65 g/ton of ingot, while an additional 10 g/ton is required for binding nitrogen. When МЛ (ML), МЛ1 (ML1), МЛ3 (ML3), МЛ5 (ML5), МЛ7 (ML7) magnesium alloy chips are used, 80 g/ton is the required quantity. The magnesium must be introduced into the aerated dry molds either by a spoon or in paper packs. The temperature of the ingot mold can be raised considerably when magnesium chips are used in pouring. Prior to the inflammation of the chips

Card 1/3

Casting stainless steel with magnesium-alloy chips

(5 - 7 sec. after pouring started), pouring must be slow. After inflammation, the chips flare up. The lower the metal level in the ingot mold, the smaller the part of the lower ingot surface which is affected by the splashing particles. After flaring up, pouring should be as quick as possible to maintain a thin film on the rising metal surface up to the end of casting. This method improves the ingot surface considerably. Only the lower part of the ingot (about 20% of the ingot height) has superficial defects; the other parts are completely clean. The steels cast with magnesium chips were tested according to ГОСТ 5632 (GOST 5632) and GOST 5949-51. Their mechanical properties were better than those of conventional heats. Spectral analysis did not reveal any magnesium in the metal. No difference was found as to the corrosion-resistance of the test metal; the service life of the ingot molds used in this method is longer than that of conventional ones. The yield of flawless product was raised by an average of 3% for various kinds of rolled products. The ingots cast with magnesium chips were ground or roughened. As in general only the lower part of the ingot has to be finished, the output in this production sector rose from 0.7 - 1.2 ingot per man-shift to 2 - 3 ingots. In roughing the ingots two variants were applied: in the first, the ingot was machined only at 200 - 250 mm from the bottom (to 10 - 12 mm

Casting stainless steel with magnesium-alloy chips

in one direction); in the second version the lower part was machined as in the first variant, but the other parts were also roughened to 2 - 4 mm. Roughing according to variant 1 decreased the metal losses from 6% to 1.0 - 1.5%, while the output was raised 1.5 - 2 times. As, on account of technological shortcomings, there may be surface defects on the upper part of the ingots, a combined finishing method is now applied: if there are scattered defects in the middle and the upper part of the ingots, not deeper than 2 mm, they are roughened according to variant 1. If defects appear in the lower part of the ingot, 4 mm deep, this part will also be roughened according to variant 1, while defects in the middle and upper part are being removed by grinding. If the middle and upper parts of the ingot show many defects, caused by faulty technology, the ingots have to be roughened according to variant 2. This combined finishing method greatly reduced metal losses, which usually occur in roughing. Similar results were obtained with 2.8-ton ingots of 35 KhYuA (35KhYuA) steel. To reduce defects in macrostructure, widened nozzles were applied and the amount of lunkerite filled in the riser was increased from 1.5 to 3 kg/ton. The flashing and spattering of magnesium is not dangerous for the workers.

Card 3/3

FRANTSUZ, A. G.

"Performance of a Diode-Voltmeter Affected by Processes of a Random Character," Radiotekhnika, No.6, pp.55-65, 1954

Translation ATIC F-TS-8547/V

SOV/106-58-9-5/17

AUTHORS: Pevnitskiy, V.P., and Frantsuz, A.G.

TITLE: The Statistical Amplitude Distributions of Radio Interference Pulses caused by Electrical Devices (O statisticheskikh raspredeleniyakh amplitud impul'sov radiopomekh, sozdavayemykh elektroustroystvami)

PERIODICAL: Elektrosvyaz', 1958, Nr 9, pp 30 - 35 (USSR)

ABSTRACT: Existing methods of measuring interference are in terms of a so-called "quasi-peak" value which is an averaged indication using an inertia detector. For the majority of practical purposes it is sufficient to know the following: 1, the probability distribution of amplitude of the oscillatory noise pulses; 2, the probability characteristics of the time interval between the pulses. It is assumed here that the form and duration of the elementary noise pulses at the output of the i.f. amplifier of a noise-measuring receiver is completely determined by the pass-band characteristics of the amplifier. One of the authors (A.G.F.) has shown in Ref 1 that, for a given detector time constant, the quasi-peak value is a function of the parameters mentioned above. A great deal of work has been published on interference, in

Card 1/6

other countries where different standards have been adopted and direct comparison of results is not possible. The present work is devoted to a study of the first statistic. The second is not examined closely, but to a first approximation it is characterised by the mean pulse repetition frequency. If the pulses appear as independent events and the probability of a pulse appearing in a small interval Δt is proportional to Δt (Poisson process), then the mean frequency is a sufficient measure of the time interval distribution. In other cases the frequency is only a necessary measure. Table 1 lists the various sources of interference which have been studied. These include: electric motors with brushes, devices for acoustic signalling using electromagnetic interruption of current, the ignition systems of internal combustion engines, various domestic sources (such as electric shavers), electric model railways, relays, cash registers, gas-discharge tubes. The measurements have been carried out with the aid of a single-channel analyser which owes some of its design to

The Statistical Amplitude Distributions of Radio Interference Pulses caused by Electrical Devices

that by Ya. I. Likhter but differs in that it resembles more the practice in nuclear physics in having an arrangement for recording the number of pulses whose amplitudes lie between certain defined levels. A block schematic is shown in Fig 1. The video impulses from the output of an inertialess detector at the end of the i.f. amplifier are further amplified and fed to two amplitude discriminators which respectively pass all pulses which are greater than one voltage level and less than another (greater) voltage level. The outputs from the discriminators are combined in an anti-coincidence mixer and then counted. The discriminator outputs are pulses of height equal to the limiting levels and of opposite polarity. The width of the upper-level pulses is greater than that from the lower-level discriminator. In the experiments which are described, the difference in levels was kept constant at 3V. The counters were allowed to run for successive equal periods of time and the entire range of pulse amplitudes explored. The distributions obtained are truncated since a correction had to be applied to allow

for the background noise present in the equipment. A priori considerations and also the character of the results themselves argue that the complete distribution follows a log-normal law. (That is to say, the distribution is normal when the voltages are expressed in decibels relative to some fixed level). The results should thus be expressible in terms of the equation at the top of page 33. The essential parameters here are μ and σ, the mathematical expectation and standard deviation respectively. The experimental values were evaluated with the aid of Hald's tables. Correlation diagrams are shown in which the theoretical and experimental results are plotted mutually. These are for 5 brush-carrying machines of various types (Fig 2), 11 acoustic signalling devices (Fig 3), a series of measurements on model railways operating in different ways (Fig 4), typical cash registers (Fig 5), ignition systems for internal combustion engines (Fig 6) and fluorescent lighting tubes (Fig 7). The fact that most of these diagrams consist of a straight line at

The Statistical Amplitude Distributions of Radio Interference Pulses caused by Electrical Devices

45 degrees verifies the previous assertion. The departure from complete correlation at the upper end of the diagram is due to non-linearity in the receiver at outputs of 50V and more. Deviations at the lower end of the diagram are due to lowered accuracy at these levels and the residual effects of system noise. The mean pulse repetition frequency is some 10 - 20 times greater than the mechanical interruption frequency. This is due to contact bounce and the occurrence of sparkover and arcing. Table 1 summarizes the statistical parameters and the mean pulse repetition frequency for all the sources measured. The author thanks Cand.Tech.Sc. D.N. Shapiro

The Statistical Amplitude Distributions of Radio Interference Pulses caused by Electrical Devices

for valuable advice and discussion. An active part was also taken by Al'tshul'-Serebrennikova.

There are 7 figures, 1 table and 4 references, three of which are Soviet.

SUBMITTED: March 24, 1958

Card 6/6

FRANTSUZ, A.G.; TONKONOGIY, I.M.; LEVIN, I.Ya.

Use of electronic computers for solving problems of differential diagnosis in aphasia. Zhur. nevr. i psikh. 64 no. 12:1759-1765 '64. (MIRA 18:1)

1. Laboratoriya meditsinskoy psikhologii (nauchnyy rukovoditel'- prof. V.N.Myasishchev) i nefrologicheskoye otdeleniye (nauchnyy rukovoditel' - prof. G.Z.Levin) Nauchno-issledovatel'skogo psikhonevrologicheskogo instituta im. Bekhtereva, Leningrad.

L 26709-66 EWT(d)/T/EWP(l) IJP(c) BB/GG

ACC NR: AP6005761

SOURCE CODE: UR/0280/65/000/005/0074/0084

AUTHOR: Frantsuz, A. G. (Leningrad)

ORG: None

TITLE: An algorithm for pattern recognition

SOURCE: AN SSSR. Izvestiya. Tekhnicheskaya kibernetika, no. 5, 1965, 74-84

TOPIC TAGS: pattern recognition, algorithm, recognition process

ABSTRACT: The author investigates an algorithm for teaching pattern recognition, applicable to a broad class of problems. The effectiveness of the algorithm depends only slightly on the variations within a sufficiently broad limit of the nature and the configuration of the regions of classes in a vector space of object description. Another unique feature of the algorithm is that with a somewhat optimal minimization of the description, there is no utilization of the redundancy of subspaces in the description space. The methodology investigated is based on the mathematical formalization of the concept of similarity. The author presents the computational procedure of teaching pattern recognition for a space with binary coordinates and gives an illustrative example. In contrast to some other pattern recognition algorithms, the present algorithm makes it possible to conduct teaching as well as recognition with a small number of objects in the teaching selection without the aid of an electronic computer. Of

Card 1/2

L 28708-66

ACC NR: AP6005761

independent interest are some of the analogies between the algorithm examined and the functional image recognition apparatus by biological image analyzers. Orig. art. has: 21 formulas.

SUB CODE: 06, 12 / SUBM DATE: 29Apr65 / ORIG REF: 002 / OTH REF: 001

Card 2/2

FRANTSUZ, E.A. (L'vov).

Homemade gas rectifier. Fiz.v shkole no.6:48-49 '53. (MLRA 6:10)
(Electric current rectifiers)

ACCESSION NR: AP4001834 S/0203/63/003/006/1108/1114

AUTHORS: Kapustin, I. N.; Kotkin, B. A.; Smirnov, V. S. Frantsuz, E. T.

TITLE: Some considerations of the design and plan of a neutron monitor

SOURCE: Geomagnetizm i aeronomiya, v. 3, no. 6, 1963, 1108-1114

TOPIC TAGS: neutron monitor, cosmic ray nucleon component, cosmic ray intensity variation, neutron monitor construction, nuclear physics, neutron counter, neutron monitor parameters, neutron detector, cosmic ray neutron, neutron energy spectrum, gas stabilitron, neutron monitor voltage standard, cosmic ray intensity, cosmic ray counter, cosmic radiation, nuclear particle

ABSTRACT: The basic parameters for a neutron monitor for measuring cosmic rays have been discussed and their individual accuracies evaluated. These entail first the change in the sensitivity of the detector defined by $A = \sum M_k a_k$, where a_k - counter sensitivity in the k-th pocket cross section, M_k - sensitivity of this pocket relative to cosmic rays, given within an accuracy of 1%. Second, a voltage regulator suitable for 2000-volt applications for which a gaseous stabilizer is considered with an accuracy of 0.05%. Thirdly, the transmission coefficient of

Card 1/2

ACCESSION NR: AP4001834

the amplifier track, which is considered to be a function of input impedance, input capacity, noise level, and amplifying coefficient of the amplifier. The latter is set at a limit of 4 to 8 x 10^3. Finally, the monitor includes a zero shift stabilizer with better than 10% accuracy and dead time limit of 200 to 1000 μ sec and a recorder of type STA-2M or LTA-57. Orig. art. has: 3 figures.

ASSOCIATION: Polyarnyy geofizicheskiy institut, Kol'skogo filiala AN SSSR (Institute of Polar Geophysics Kola Department AN SSSR)

SUBMITTED: 22Feb63 DATE ACQ: 17Dec63 ENCL: 00

SUB CODE: AS NO REF SOV: 005 OTHER: 001

Card 2/2

L 20233-65 EWT(l)/EWG(v)/FCC/EEC-4/EEC(t)/EWA(h) Pb-4/Po-4/Pe-5/
P[illegible]-4/Pae-2/Peb/Pi-4 AFWL/SSD(c)/AEDC(b)/A[illegible]/BSD/GSD/
[illegible]-3/AFMDC/AFETR/APGC(b)/ESD(gs)/ESD(t) [illegible]
ACCESSION NR: AP5002108 S/0048/64/028/012/2085/2086

AUTHOR: Lazutin, L. L.; Frantsuz, E. T.

TITLE: Radio probe for the measurement of cosmic-ray density in the stratosphere. [Report presented at the Vsesoyuznoye soveshchaniye po fizike kosmicheskikh luchey (All-Union Conference on the Physics of Cosmic Rays), held at Moscow, 4-10 October 1963]

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v. 28, no. 12, 1964, 2085-2086

TOPIC TAGS: radiosonde, radiation measurement, solar radiation, cosmic radiation, cosmic ray density, gas discharge counter, two counter telescope

ABSTRACT: A new radio probe for measuring cosmic-ray density in the ionosphere, particularly solar radiation, is described. The design of the RKL-4 probe (see Fig. 1 of Enclosure) was based on experimental data collected during the IGY. Registration of charged particles is accomplished with either a single STS-6 gas-discharge counter or a two-counter telescope. Pulses from counters 1 and 2 (Fig. 1) are applied to the collector and base of transistor 3, which is operating under keying conditions; i.e., a negative pulse from counter 1 passes to the output only when transistor 3 is closed by a positive pulse from counter 2. A blocking oscillator

Card 1/2

L 20233-65
ACCESSION NR: AP5002108

based on transistor 4 creates a positive pulse of 300 μsec, triggering the tube 5 of the telemetry transmitter (frequency range, 80—90 Mc). In the RKL-4 with a single counter, the keying circuit is eliminated; a pulse from the counter directly triggers the blocking-oscillator. In this case the shaping circuit is blocked by the barograph contact, and the counting ceases. Substitution of a copper chloride-magnesium battery for the usual dry-battery set sharply increases the utilization factor of the chemical supply source. Tests carried out during the second and third quarters of 1963 demonstrated the reliability of the RKL-4 probe for 7—8-hr operation. Steady signal reception was secured in ascent, descent, and even drift (4—5 hr) at 25—30 km. Maximum altitude was 35 km. Since January 1964, regular daily flights of the probe have been made. Orig. art. has: 1 figure.

ASSOCIATION: none

SUBMITTED: 00	ENCL: 01	SUB CODE: EC, AA
NO REF SOV: 002	OTHER: 000	ATD PRESS: 3163

Card 2/3

L 3292-66 EWT(1)/FCC/EWA(h) GS/GW

ACCESSION NR: AT5022840 UR/0000/65/000/000/0279/0279

AUTHOR: Frantsuz, E. T. 44,55

TITLE: On the organization of stratospheric observations of cosmic rays in Apatity

SOURCE: Vsesoyuznoye soveshchaniye po kosmofizicheskomu napravleniyu issledovaniy kosmicheskikh luchey. 1st, Yakutsk, 1962. Kosmicheskiye luchi i problemy kosmofiziki (Cosmic rays and problems in space physics); trudy soveshchaniya. Novosibirsk, Redizdat Sib. otd, AN SSSR, 1965, 279

TOPIC TAGS: radiosonde, cosmic ray measurement

ABSTRACT: A new radiosonde employing STS-6 gas-discharge counters for measuring cosmic-ray intensity is reported. The coincidence circuit and modulator are comprised of P-13 transistors. Resolving time of the coincidence circuit is 20 μsec; its input capacitance is 10-pf. The transmitter, based on the Z-36 radio set, has a 500-μsec pulse duration and operates in the 200-Mc range. The power supply for the radio circuits consists of two copper-magnesium chloride batteries. Each battery weighs 200 g and is capable of producing 25-μamp load current at 50 v for 2 hr. The high-voltage circuits of the discharge counters are supplied by a transistorized

Card 1/2

L 3292-66

ACCESSION NR: AT5022840

3

voltage converter (P-26 transistors). The 390-v voltage for the counters is stabilized by the SG-301S corona discharge stabilization tube. Overall weight of the probe is less than 1 kg. At present, the device is in the testing stage. [PW]

ASSOCIATION: Polyarnyy geofizicheskiy institut Kol'skogo filiala AN SSSR (Polar Geophysical Institute, Kola Branch, AN SSSR)

SUBMITTED: 29Oct64 ENCL: 00 SUB CODE: ES, EC

NO REF SOV: 002 OTHER: 000 ATD PRESS: 4113

Card 2/2 DP

ZOTOV, I.S.; GOVSIYEVICH, R.Ye.; KUTSIN, B.M.; FRANTSUZ, R.A.; ORLOV, N.A., prof., retsenzent; YAMPOL'SKIY, Ye.S., inzh., red.

[Economic analysis of projects of machine manufacturing plants] Ekonomicheskoe obosnovanie proektov mashinostroitel'nykh zavodov. Moskva, Izd-vo "Mashinostroenie," 1964. 398 p. (MIRA 17:6)

6(4), 7(7) SOV/108-13-12-8/12

AUTHORS: Kozina, O. G., Frantsuzov, A. A.

TITLE: On Selective RC Amplifiers (Ob izbiratel'nykh RC-usilitelyakh)

PERIODICAL: Radiotekhnika, 1958, Vol 13, Nr 12, pp 64-71 (USSR)

ABSTRACT: The behavior of a selective amplifier with a double T-bridge in the feedback circuit with little variations of the bridge parameters (especially the influence of the parameters on the self excitation) is investigated. A new circuit diagram for the feedback connection is given. The calculation of the amplifier with respect to the finite size of the leakage and load resistance is carried out. The results of calculation are checked by experiments. The calculated results agree with the measurements within the limits of measuring accuracy. There are 11 figures, 1 table, and 3 Soviet references.

SUBMITTED: March 8, 1957 (initially) and March 11, 1958 (after revision)

Card 1/1

S/120/61/000/006/037/041
E034/E485

AUTHOR: Frantsuzov, A.A.

TITLE: The magnetic properties of brass

PERIODICAL: Pribory i tekhnika eksperimenta, no.6, 1961, 146-147

TEXT: In tests on nuclear-magnetic resonance certain brass parts of the apparatus were found to have magnetic properties and so interfered with the tests. Accordingly, the permeability of a number of brass specimens was studied by observing whether the presence of a flat specimen altered the magnetic field in an air gap. The nuclear-magnetic resonance signal was observed with an amplitude bridge circuit with which the permeability could be measured to an accuracy of 1×10^{-5}. Ductile brasses grades Л62 (L62) and Л68 (L68) had a susceptibility less than 10^{-4}, but hard brasses containing tin, lead, etc had appreciable susceptibility which varied from one specimen to another, the values for three samples of grade ЛС59 (LS59) being 1.2×10^{-2}, 2.4×10^{-3} and 1.7×10^{-3}. The first two of these samples were found to have iron contents of 0.44% and 0.09% respectively. Presumably some of the iron is in the form of ferromagnetic

Card 1/2

The magnetic properties of brass S/120/61/000/006/037/041
E034/E485

inclusions. Accordingly, when very un[illegible] required parts [illegible] is not possible, of two-component brass such as grade L62, of copper or aluminium or if this is not possible. There are 1 figure and 2 references: 1 Soviet-bloc and 1 non-Soviet-bloc. The reference to an English language publication reads as follows: Ref.1: H.A.Thomas, R.D.Hunton, Rev. Scient. Instrum., v.20, 1949, 516.

ASSOCIATION: Fiziko-tekhnicheskiy institut AN SSSR
(Physicotechnical Institute AS USSR)

SUBMITTED: March 27, 1961

Card 2/2

39162
S/120/62/000/003/028/048
E032/E114

AUTHORS: Mamyrin, B.A., and Frantsuzov, A.A.

TITLE: A high-resolution resonance mass spectrometer

PERIODICAL: Pribory i tekhnika eksperimenta, no.3, 1962, 114-119

TEXT: A high-resolution spectrometer is described in which the ions are separated according to their time-of-flight in a uniform magnetic field. The device is similar in principle to that described by L.G. Smith and C.C. Damm (Rev.Scient.Instrum., 27, 1956, 638). In distinction to the latter device, in the present spectrometer the ion beam is swept from the centre to the periphery, so that the beam can be extracted and an ordinary electron multiplier can be used as a detector. A single-turn orbit is employed so that the effective magnetic field can be determined more accurately, and a grid modulator is used so that a more uniform field can be produced at small distances between the modulator electrodes. The device is illustrated schematically in Fig.1. The current at the output is recorded with the aid of an open-input electron multiplier, as shown in Fig.5. The instrument operates in the mass range M/e = 10 - 40.

Card 1/3

A high-resolution resonance mass ... S/120/62/000/003/028/048
E032/E114

The resolution is of the order of 25,000 to 35,000 at a dispersion of 300 to 500 mm per 1% mass change. There are 6 figures.

ASSOCIATION: Fiziko-tekhnicheskiy institut AN SSSR
(Physicotechnical Institute AS USSR)

SUBMITTED: November 5, 1961

Card 2/2

L 18261-65 EWT(m) DIAAP/SSD/SSD(c)/AFWL/AS(mp)-2

ACCESSION NR: AP5000911 S/0020/64/159/004/0777/0778

AUTHOR: Menyrin, B. A.; Frantsuzov, A. A. 16

TITLE: New measurement of the proton magnetic moment

SOURCE: AN SSSR. Doklady, v. 159, no. 4, 1964, 777-778

TOPIC TAGS: proton, magnetic moment, spin precession, hydrogen nucleus, ion cyclotron frequency, Faraday number

ABSTRACT: The cyclotron frequencies of the ions He^+, Ne^{2+}, and Ne^+ were measured with a magnetic-resonance mass spectrometer described by the authors elsewhere (Prib. i tekhn. eksp., No. 3, 114, 1962). At the same time, the frequency of [illegible] of hydrogen nuclei in a water sample were measured simultaneously [illegible] magnet, making it possible to determine the magnetic moment of the proton in nuclear magnetons. Unlike earlier methods, the present method makes it possible to measure the cyclotron period of the ions during a single revolution [illegible] in the magnetic field, and deduce from this an exact theory of the motion of the ions in the instrument and to calculate the cyclotron frequency of the ions on the basis of experimental data without resorting to any supplementary

Card 1/3

L 18261-65

ACCESSION NR: AP5000911

2

assumptions. The results obtained by other investigators and in the present work are listed in Table 1 of the enclosure, which shows that the present method yields a much smaller experimental error. In addition, the authors calculated the Faraday number and found it to be 9,648.03 ± 0.09 Coulomb/mole in the C^{12} mass scale (against 9,651.42 ± 0.09 in the old physical mass scale). This report was presented by Academician B. P. Konstantinov. Orig. art. has: 1 table.

[illegible] Fiziko-tekhnicheskiy institut im. A. F. Ioffe Akademii nauk SSSR
Physico-technical Institute, Academy of Sciences SSSR

[illegible] [illegible] [illegible]

SUB CODE: NP NR REF SOV: 001 OTHER: 005

Card 2/3

L 18261-65

ACCESSION NR: AP5000911

ENCLOSURE: 01

Source	Measurement method	Result
(2)	Omegatron	2,70268±0,00006
(3)	Decelerating cyclotron	2,70268±0,00005
(4)	Omegatron	2,70283±0,00000
Present data	Magnetic-resonance mass spectrometer	2,79270±0,00002

Table 1. Proton magnetic moment expressed in nuclear magnetons

Card 3/3

L 40774-65 EWT(m)/T/EWA(m)-2
ACCESSION NR: AP5006487 S/0056/65/048/002/0416/0428

30
26
B

AUTHORS: Mamyrin, B. A.; Frantsuzov, A. A.

19

TITLE: Measurement of the magnetic moment of the protons in units of the nuclear magneton

SOURCE: Zhurnal eksperimental'noy teoreticheskoy fiziki, v. 48, no. 2, 1965, 416-428

TOPIC TAGS: proton, magnetic moment, mass spectrometer, magnetic resonance

ABSTRACT: A new technique is proposed for measuring the magnetic moment of the proton, in nuclear magneton units, whereby the cyclotron frequency is measured in a single revolution of the ions in the apparatus. Earlier techniques did not possess this advantage. The procedure is based on the use of a magnetic resonance mass spectrometer, described by the authors earlier (PTE, no. 3, 114, 1962), whose

Card 1/3

operating parameters were changed to accommodate lighter masses. The measurements were performed with He_4^+, Ne_{20}^{++} and Ne_{20}^+ ions. The measuring technique, some units of the apparatus, and the various corrections introduced are described. The magnetic moment of the proton (without correction for the diamagnetic shielding of the hydrogen nuclei in water) is found to be 2.79279 ± 2 nuclear magnetons. The spread of the measurements is equivalent to $\pm 3.5 \times 10^{-6}$ rms relative error. The total rms relative experimental error is $\pm 6 \times 10^{-6}$. "The authors thank Professor N. N. Ionov in whose laboratory this work was done for support and discussions, and V. A. Zagulin, who participated in the design of the electronic apparatus, and B. N. Shustrov for many useful discussions." Orig. art. has: 6 figures and 15 formulas.

ASSOCIATION: Fiziko-tekhnicheskiy institut im. A. F. Ioffe Akademii nauk SSSR (Physicotechnical Institute, Academy of Sciences SSSR)

MAMYRIN, B.A.; FRANTSUZOV, A.A.

Measurement of the magnetic moment of the proto in nuclear magnetons. Zhur. eksp. i teor. fiz. 48 no.2:416-428 F '65. (MIRA 18:11)

1. Fiziko-tekhnicheskiy institut imeni A.F. Ioffe AN SSSR.

FRANTSUZOV, B. L.

PA 47/49T50

USSR/Medicine - Aphonia and Dysphonia Jan/Feb 49
Medicine - Voice, Therapy

"Therapy for Functional Aphonia and Dysphonia," Lt Col B. L. Frantsuzov, Med Sv, Cand Med Sci, LOR Dept, Kiev Dist Mil Hosp, 4 pp

"Vest Oto-Rino-Laringol" No 1

Describes studies of several cases. Investigators concluded that so-called method of "fixation and supporting" of the larynx was as effective as contemporary orthophonic and other methods. Fixation of the larynx was quite effective in treating fatigue aphonia.

47/49T50

FRANTSUZOV, B.L.

Method of restoration of external auditory canal in adhesions. Vest. otorinolar. No.3:62-64 May-June 50. (CLML 19:4)

FRANTSUZOV, B. L.

Endobronchial method of the treatment of pulmonary abscesses with penicillin. Vest. otorinolar., Moskva 13 no.5:72-75 Sept-Oct 1951. (CIML 21:1)

1. Candidate Medical Sciences. 2. Kiev.

FRANTSUZOV, B.L., kandidat meditsinskikh nauk (Kiyev).

Conservative therapy in mastoiditis. Vest.oto-rin. 15 no.5:26-31 S-O '53. (MLRA 6:11)
(Mastoid process--Diseases)

FRANTSUZOV, B.

SHVARTSBERG, Ya.; FRANTSUZOV, B.

Activities report of the Kiev branch of the Ukrainian Society of Otorhinolaryngologists for the year 1953. Vest. oto-rin. 1y no.4: 90-92 Jl-Ag '54. (MLRA 7:8)

(UKRAINE--OTORHINOLARYNGOLOGY--SOCIETIES)
(OTORHINOLARYNGOLOGY--SOCIETIES--UKRAINE)

FRANTSUZOV, B.L., kandidat meditsinskikh nauk (Kiyev).

Technique of restoration of partial defects of the helix. Vest. oto-rin. 16 no.1:41-43 Ja-F '54. (MLRA 7:3)
(Ear--Surgery)

FRANTSUZOV, B. L.; BORODYANSKAYA, A. N.

"The Problem of the Significance of Diseases of Throat, Ear, and Nose in the Pathogenesis of Grippe and Colds," Voyenno-Med. Zhur., No. 11, p. 65, 1955.

FRANTSUZOV, B.L., kandidat meditsinskikh nauk(Kiyev)

Ossification of the auricles of the ear. Vest. oto-rin. 17 no.6:66-67 N-D '55. (MLRA 9:2)

(EAR, EXTERNAL, diseases,
ossification of auricles)
(OSSIFICATION,
auric. of ear)

FRANTSUZOV, B.L., kand.med.nauk, POLYAK, L.A., FEYGIN, N.P., (kiyev)

Antibiotic therapy in chronic highmoritis. Vest.oto.-rin. 20 no.4 104-105 Jl-Ag '58 (MIRA 11:7)
(ANTIBIOTICS)
(SINUSITIS)

FRANTSUZOV, B.L., kand.med.nauk

Diagnosis and treatment of neuralgias of the superior laryngeal nerve of a peripheral nature. Zhur. ush., nos. i gorl. bol. 20 no.5:52-56 S-O '60. (MIRA 14:6)

1. Iz otolaringicheskogo otdeleniya Kiyevskogo okruzhnogo gospitalya.
(LARYNGEAL NERVE—DISEASES)

FRANTSUZOV, B.L., kand.med.nauk

Nikolai Pavlovich Trofimov. Zhur. ush., nos. i gorl. bol. 21 no.3: 87-88 My-Je '61. (MIRA 14:6)
(TROFIMOV, NIKOLAI PAVLOVICH, 1861-1918)

VEREMEYENKO, K.N., dotsent; FRANTSUZOV, B.L., kand. med. nauk

Use of proteolytic enzymes in otolaryngology. Zhur. ush., nos. i gorl. bol. 23 no.1:80-83 Ja-F '63.
(MIRA 17:2)

FRANTSUZOV, B.L., kand.med.nauk; VEREMEYENKO, K.N., dotsent.

Extending the possibilities of tympanoplasty by the use of chymotrypsin. Zhur.ush. nos. i gorl. bol. 23 no.2:14-18 Mr-Ap'63. (MIRA 16:8)

1. Iz obqhchego klinicheskogo otdela i laboratorii biokhimii Nauchno-issledovatel'skogo instituta otolaringologii Ministerstva zdravookhraneniya UkrSSR (dir. i nauchnyy rukovoditel' zasluzhennyy deyatel' nauki prof. A.I.Kolomiychenko).
(TYMPANAL ORGAN--SURGERY) (CHYMOTRYPSIN)

FRANTSUZOV, D. L.

Conservative therapy in mastoiditis. Vest. otorinolar., Moskva 15 no.5:26-31 Sept-Oct 1953. (CIML 25:5)

1. Candidate Medical Sciences. 2. Kiev.

MILICHENKO, S.L., inzh.; RAZIKOV, M.I., kand. tekhn. nauk;
KOCHEVA, G.N., inzh.; KASHCHEYEV, V.A., inzh.;
FRANTSUZOV, D.M., inzh.

Repair of the rotor wheel of a hydraulic turbine using built-up welding with a cavitation resistant layer. Elek. sta. 35 no.5:37-41 My '64. (MIRA 17:8)

KAMINSKAYA, V.V.; FRANTSUZOV, F.A.

Effect of the adjustment of open-side jig boring machines on their rigidity. Stan. i instr. 31 no.5:24-26 My '60. (MIRA 14:5)
(Drilling and boring machinery)

FRANTSUZOV, I. K.

12051

USSR/Textiles 4415.0700 Aug 1947

"We Will Fulfill Our Obligations," I. K. Frantsuzov, Director of the Wool Factory imeni Rudoy, 1 p

"Tekstil Prom" Vol VII, No 8

By 1 Jul, the factory overfulfilled its norm by 41 thousand woolen yarns and 61 meters of coarse and finished fabric. By end of year expect to overfulfill plan by 80 thousand yarns and 100 meters of coarse and finished fabric. Prewar speed of self-active mules was 4.5 to 4.8 from carriage while during the war it was 4. Today the speed is 5. The Shenger carriage makes 58 revolutions per minute today. Currently 360 meters of thread are wound around

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USSR/Textiles 4415.0700 (Contd) Aug 1947

a cop. Modernization of equipment, such as replacement of wooden bobbins with duralumin ones, discussed. Specific planned and actual figures for 1947 given for productivity of equipment and labor.

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12051

NIKITIN, Mikhail Nikitich; ALESHIN, Petr Antonovich; BRONYAKIN, Viktor Petrovich; ISTOMINA, Tat'yana Ivanovna; GREKOV, Andrey Ivanovich; LIOZHOV,A.G., redaktor; FRANTSUZOV,I.K., retsenzent; NEKRASOVA,O.I., tekhnicheskiy redaktor

[Construction, assembly and adjustment of automatic looms ATS-9M and AT-175Sh] Ustroistvo, montazh i naladka avtomaticheskikh tkatskikh stankov ATS-9M i AT-175Sh. Izd.2-oe,perer. i dop. Moskva, Gos. nauchno-tekhn. izd-vo Ministerstva tekstil'noi promysh. SSSR, 1955. 211 p. (MLRA 9:3)

(Looms)

PHASE 2 BOOK EXPLOITATION SOV/5452

Donskoy, Ya. Ye., G.I. Kantsib, and I.P. Lyalyuk, eds.

Mekhanizatsiya i avtomatizatsiya; sbornik statey ob opyte vnedreniya mekhanizatsii i avtomatizatsii na Khar'kovskikh mashinostroitel'nykh zavodakh (Mechanization and Automation; Collection of Articles on the Introduction of Mechanization and Automation in Khar'kov Machinery-Manufacturing Plants) [Khar'kov] Khar'kovskoye knizhnoye izd-vo, 1960. 373 p. 3,500 copies printed.

Editorial Board: S.A. Vorob'yev, Candidate of Technical Sciences; Chairman of the Editorial Board: P.I. Zhuk, Engineer; A.A. Kuhlov, Engineer, V.I. Kurnbov, Engineer; A. Ye. Lemov, Docent, A.I. Pustyna, Candidate of Technical Sciences, and S.M. Khasru, Candidate of Technical Sciences; Eds.: Ya. Ye. Donskoy, G.I. Kantsib, and I.P. Lyalyuk; Tech. Ed.: M.I. Limanova.

PURPOSE: This collection of articles is intended for technical and scientific personnel, outstanding workers, and shock workers of communist labor.

COVERAGE: The multifaceted experience of Khar'kov enterprises in the mechanization, automation, and improvement of manufacturing processes is generalized. The development of new machines, instruments, and promotion methods is considered and attention is given to newly established enterprises, and to the introduction of telemechanics in the Khar'kov gas-system management. By including concrete examples and facts, the authors of the various articles attempt to demonstrate the achievements of the Khar'kov industrial complex in fulfilling the resolutions of the June (1959) and July (1960) Plenums of the Central Committee of the Communist Party of the Soviet Union. No personalities are mentioned. There are no references.

TABLE OF CONTENTS:

Card 4/8

S/121/61/000/009/001/006
D040/D113

AUTHOR: Frantsuzov, I.T.

TITLE: New machine tools of the Khar'kov Machine Tool Plant

PERIODICAL: Stanki i instrument, no. 9, 1961, 20-24

TEXT: The article presents general information on new circular grinders produced by the Khar'kovskiy stankostroitel'nyy zavod (Khar'kov Machine Tool Plant) where the production of automatic and semiautomatic machines started in 1955 and reached 43.5% of the total output in 1961. Fifty new general-purpose and special machine tool models are being produced, and six transfer lines of four types have been completed. The parts and component units of the new machines are 90-95% in line with the parts and components of the basic model in the range. The 3A151 (3A151) is the basic model for the 3B151 (3B151), 3A161 (3A161) and 3B161 (3B161) machines. All semiautomatic and automatic grinders in a range have infeed mechanisms, hydraulically driven tailstocks, magnetic separators for coolants, and single-handle control. All may be fitted with automatic process control devices and used in automatic transfer lines. Brief design and operation description is given of the following units: the 3A151 and 3A161 base models for the new range of

Card 1/4

New machining tools...

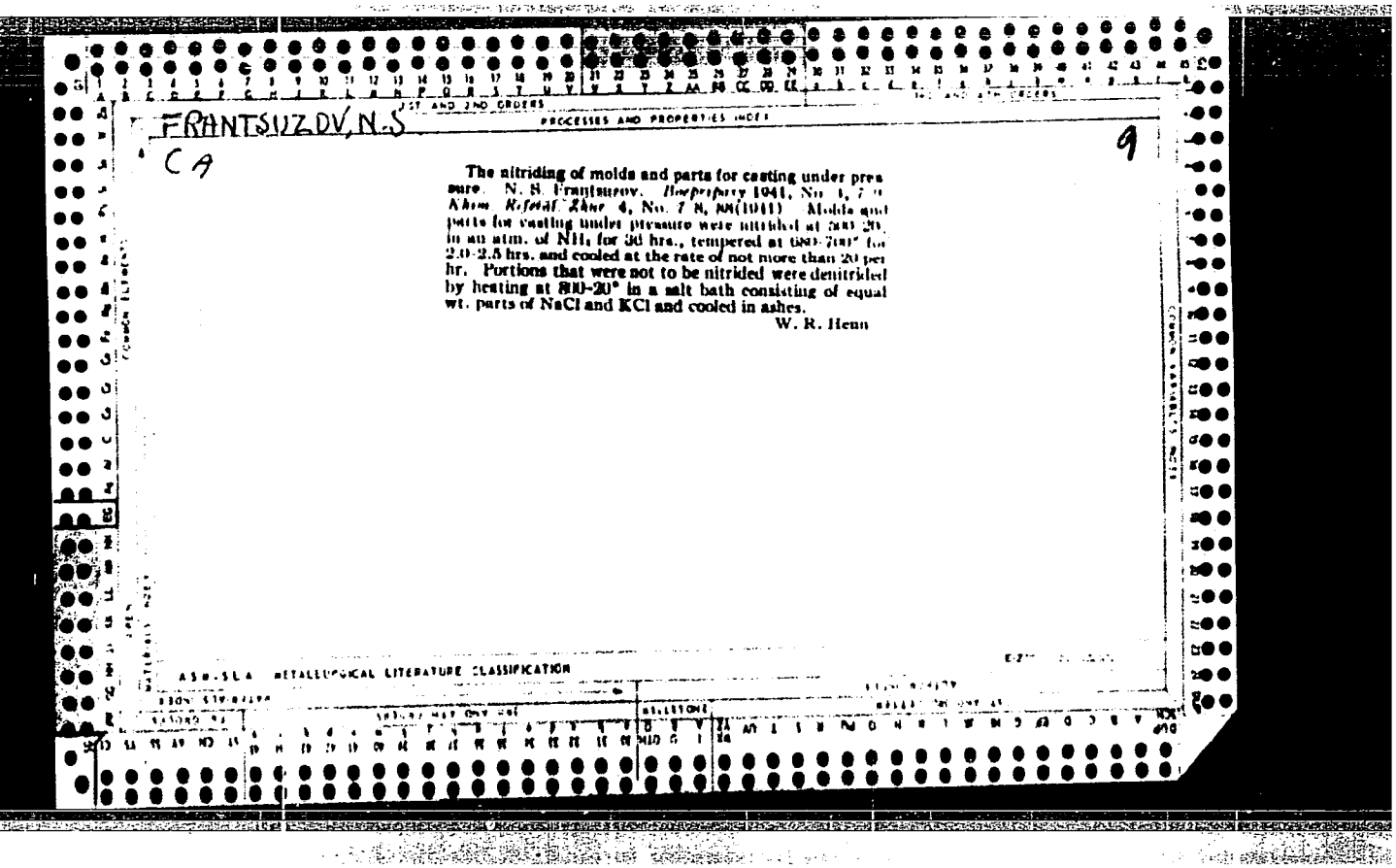
circular grinders are designed for grinding cylindrical and up to 1:5 taper outer surfaces on work of a maximum diameter of 200 and 280 mm and a length of 700 and 1000 mm respectively. They have replaced the obsolete 3151 and 3161 grinders, their productivity being 30 to 35% higher. First class grinding accuracy is possible with the use of automatic process control. The new design features of the 3A151 and 3A161 include an oscillating mechanism for use in operation with infeed, a one-piece frame, smooth hydraulic table motion of 0.05-0.01 m/min; self-adjustable multi-bushing bearings of the grinding spindle. The 3A164 and 3A164A machines for cylindrical, tapered and stepped outer surfaces have replaced the obsolete 3164 and 3164A models and are the basic machines for a range of semiautomatic and special grinders. Heavy-duty 3A172 and 3A174 grinders accommodate work of 560 and 800 mm in diameter and 4000 and 6000 mm in length respectively, with cylindrical and slightly tapered outer surface. They are produced to replace the obsolete 3172 and 3174 and are twice as accurate in periodical feed, have a wider range of workpiece rotation adjustment, stepless velocity adjustment of the grinding wheel and weigh 7 tons less. This results in a 25-30% higher work productivity, improved accuracy of dimensions and surface finish. Modifications of the 3A164 and 3A164A machines will be produced for general-purpose

and special work to replace the old machine range. The following machines are mentioned as items of particular interest: (1) 6Л10 (6L10) transfer line for grinding of 1.25 million engine piston pins for the КА-35 (KD-35) tractor annually; (2) two 6Л16 (6L16) transfer lines for grinding 2.5 million caterpillar chain link pins for the С-80 (S-80) tractor annually; (3) 6Л17 (6L17) transfer line for 1.25 million piston pins of the S-80 tractor annually; all three transfer lines consist of 6С133 (6S133) type centerless grinders; (4) two ХШЛ-1 (KhShL-1) transfer line of four ХШ-280 (KhSh-280) automatic circular grinders for grinding trunnions on СМД (SMD) engine crankshafts at a rate of 40-45 crankshafts per hour; (5) ХШ-255 (KhSh-255) and ХШ-257 (KhSh-257) automatic grinders with two grinding heads for simultaneous grinding of four trunnions and coaxial and butt surfaces on SMD engine crankshafts; (6) automatic ХШ-256 (KhSh-256) grinder with one spindle head, designed for grinding 40-50 central trunnions of crankshafts per hour; this grinder is suitable for transfer lines and will be the basic model for transfer lines for crankshaft trunnions; (7) ХШ-203 (KhSh-203) automatic grinder permitting simultaneous grinding of up to 5 different diameters on stepped shafts, distribution shafts or similar parts of up to 80mm in diameter and 900 mm in length; (8) ХШ-280 (KhSh-280) automatic grinder

New machining tools...

for KhShL-1 transfer lines; (9) XW-248 (KhSh-248) semiautomatic finish grinder for bearing trunnions of the distributing shaft of the SMD engine; the grinder is resettable for other work; (10) a 3K161 (3K161) base model outside grinder for work 280 x 700 mm in diameter, operating with infeed; (11) a XW-285 (KhSh-285) for grinding the spherical surfaces on inner races of conical roller bearings of three types and resettable for other race dimensions in a range of 50-100 mm of inside diameter, fully automatic operation and a productivity of up to 100-120 races per hour. The first lot of KhSh-285 grinders is produced for application in an automatic transfer line at the 9[illegible]3 (9GPZ). There are 10 figures.

Card 4/4



FRANTSUZOV, N.S

CA

9

PROCESSES AND PROPERTIES INDEX

The nitriding of molds and parts for casting under pressure. N. S. Frantsuzov. *Liteinoe Delo* 1941, No. 1, 7-9; *Khim. Referat. Zhur.* 4, No. 7-8, 88(1941). Molds and parts for casting under pressure were nitrided at 500-20° in an atm. of NH_3 for 30 hrs., tempered at 680-710° for 2.0-2.5 hrs. and cooled at the rate of not more than 20° per hr. Portions that were not to be nitrided were denitrided by heating at 800-20° in a salt bath consisting of equal wt. parts of NaCl and KCl and cooled in ashes.

W. R. Henn

A.S.M.-S.L.A. METALLURGICAL LITERATURE CLASSIFICATION

FRANTSUZOV, Yakov Leonovich; BELYAYEV, Leonid Mikhaylovich; PLAVINSKIY, V.I., kand. tekhn. nauk, retsenzent; VOYTSEKHOVSKIY, R.I., inzh., red.; GALANOVA, M.S., inzh., red. izd-va; UVAROVA, A.F., tekhn. red.

[Assembly and operation of suspended cableways] Montazh i ekspluatatsiia podvesnykh kanatnykh dorog. Moskva, Mashgiz, 1962. 275 p. (MIRA 15:3)
(Cableways)

BELYAYEV, L.M., inzh.; ZELICHENOK, G.G., kand. tekhn. nauk; KOVTUNOV, A.B.; MAZO, L.I., inzh.; YAKOVLEV, V.N., inzh., red.; ~~FRANTSUZOV, Ya.L.,~~ inzh. red.; MOLYUKOV, G.A., inzh., red. izd-va; TIKHANOV, A.Ya., tekhn. red.

[Assembling hoisting and transportation machinery; a concise handbook] Montazh pod"emno-transportnykh mashin; kratkoe spravochnoe posobie. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1958. 235 p. (MIRA 11:7)

(Hoisting machinery)

BELYAYEV, Leonid Mikhaylovich; FRANTSUZOV, Yakov Leonovich; OBUKHOV, A.I., retsenzent; TSIFRINOVICH, A.Z., inzh., red.; STUPIN, A.K., red. izd-va; EL'KIND, V.D., tekhn.red.

[Assembling of cranes and loaders] Montazh kranov i peregruzhatelei. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1958. 299 p. (MIRA 11:5)
(Cranes, derricks, etc.)

BUDANOV, G.V., otv. za vypusk; REZNIKOV, A.I., otv. za vypusk; FRANTSUZOV, Ya.L., red.; PEVZNER, A.S., red.izd-va; OSENKO, L.M., tekhn.red.

[Cost manual for the assembling of equipment] TSennik na montazh oborudovaniia. Izd.2. Moskva, Gos.izd-vo lit-ry po stroit., arkhit. i stroit.materialam. No.3. [Hoisting and transporting equipment] Pod"emno-transportnoe oborudovanie. 1959. 205 p. (MIRA 13:3)

1. Russia (1923- U.S.S.R.) Gosudarstvennyy komitet po delam stroitel'stva.
(Hoisting machinery) (Conveying machinery)

BELYAYEV, Leonid Mikhaylovich; FRANTSUZOV, Yakov Leonovich; KOPERIN, V.V., inzh., nauchnyy red.; TABUNINA, M.A., red. izd-va; MOCHALINA, Z.S., tekhn. red.

[Assembly of hoisting and conveying machinery with continuous and intermittent action] Montazh pod"emno-transportnykh mashin nepreryvnogo i preryvnogo deistviia. Moskva, Gosstroiizdat, 1962. 278 p. (MIRA 15:7)
(Conveying machinery) (Hoisting machinery)

BELYAYEV, L.M.; FRANTSUZOV, Ya.L.; OBUKHOV, A.I., nauchn. red.; ZHURAVLEV, B.A., red.

[Erecting freight and passenger suspended cableways] Montazh gruzovykh i passazhirskikh podvesnykh kanatnykh dorog. Moskva, Stroiizdat, 1964. 250 p. (MIRA 17:12)

VOL'BERG, N.Ye.; GAYDAMAK, K.M.; DIMAT, M.P.; KOPERIN, V.V.; KOLOKANOV, A.V.; NAUMOV, V.G.; PALAGIN, A.V.; TIMOFEYEV, A.I.; FRANTSUZOV, Ya.L.; VOLNYANSKIY, A.K., glav. red.; SUDAKOV, G.G., zam. glav. red.; IOSELOVSKIY, I.V., red.; ORLOV, V.M., red.; ONKIN, A.K., red.; NIKOLAYEVSKIY, Ye.Ya., red.; MARKOV, I.I., red.; MEL'NIK, V.I., red.; STAROVEROV, I.G., red.; TUSHNYAKOV, M.D., red.; CHERNOV, A.V., red.; KRYLOV, V.A., nauchn. red.

[Assembly of technological equipment of chemical plants] Montazh tekhnologicheskogo oborudovaniia khimicheskikh zavodov. Moskva, Stroiizdat, 1964. 619 p.
(MIRA 17:11)

FRANTSUZOV, Ye. I.

Cand Agr Sci - (diss) "Black-speckled cattle and methods of breeding them in the priokskiye rayons of the Moskovskaya and Ryazanskaya oblasts." Moscow, 1961. 17 pp; (Moscow Order of Lenin Agricultural Academy imeni K. A. Timiryazev); 200 copies; price not given; (KL, 5-61 sup, 198)

FRANTSUZOV, Ye.I., zasluzhennyy zootekhnik RSFSR

Some problems in the organization of breeding work in dairy farming. Zhivotnovodstvo 22 no.7:78-82 '60. (MIRA 16:5)
(Lukhovitsy District--Dairy cattle breeding)

FRANTSUZOV, Ye. M.

"Recloser for Electric Motors," Elek. sta., 23, No.7, 1952

VINTER, A.V., akademik; KUKUSHKIN, I.N., inzhener; TRAPEZNIKOV, V.A.; NIKOLAYEV, A.T., inzhener (Muromtsevo, Vladimirskoy obl.); KUDELIN, Ya.M. (Muromtsevo, Vladimirskoy obl.); PETROV, I.I., dotsent, kandidat tekhnicheskikh nauk (Moscow); BADALYANTS, M.G., inzhener; BELICHENKO, G.M., inzhener; KLAPCHUK, L.D., inzhener; FRANTSUZOV, Ye.M., inzhener; TAREYEV, B.M., professor, doktor tekhnicheskikh nauk; MAGIDSON, A.O., inzhener.

Improving the knowledge of power engineers through correspondence courses. Remarks on B.M.Tareev's and A.O.Magidson's article. Elektrichestvo no.3:76-80 Mr '54. (MLRA 7:4)

1. Energeticheskiy institut im. Krzhizhanovskogo Akademii nauk SSSR (for Vinter). 2. Glavnyy energetik Gor'kovskogo avtomobil'nogo zavoda im. Molotova (for Kukushkin). 3. Institut avtomatiki i telemekhaniki Akademii nauk SSSR (for Trapeznikov). 4. Chlen-korrespondent Akademii nauk SSSR (for Trapeznikov). 5. Leninskanges (for Badalyants). 6. Dnepropetrovskiy institut inzhenerov transporta (for Belichenko). 7. Kurakhovskaya gres (for Klapchuk). 8. Orekhovo-Zuyevskaya tets (for Frantsuzov). 9. Vsesoyuznyy zaochnyy energeticheskiy institut (for Tareyev and Magidson).

FRANTSUZOV, E.M.

AID P - 2423

Subject : USSR/Electricity

Card 1/1 Pub. 26 - 22/33

Author : Frantsuzov, E. M.

Title : On P. Zh. Ozol's article: "Automatic re-starting of electric motors"

Periodical : Elek sta 5, 54, My 1955

Abstract : The author criticizes an article published in No 6, 1954 issue of this journal on automatic reclosure and gives several suggestions. The article is accompanied by an answer by P. Zh. Ozol.

Institution: None

Submitted : No date

FRANTSUZOV, Ye.M.

Automatic reclosing without an electromechanical time relay. Elek. sta. 27 no.3:57-58 Mr '56. (MLRA 9:8)
(Electric circuit breakers)

ACC NR: AT6015365 EWT(d)/FSS-2 GD

SOURCE CODE: UR/0000/65/000/000/0111/0119

AUTHOR: Karachentseva, N. Ya.; Frantsuzova, K. D.; Klavanskaya, F. G.

ORG: none

TITLE: The use of communications channels for data transmission

SOURCE: AN BSSR. Institut tekhnicheskoy kibernetiki. Vychislitel'naya tekhnika (Computer engineering). Minsk, Nauka i tekhnika, 1965, 111-119

TOPIC TAGS: air communication, wire communication, pulse communication, radio communication, communication channel, communication coding, communication equipment, communication link, communication network, communication system, data transmission, transmission line

ABSTRACT: The authors describe various communication channels for data transmission in the Soviet Union and discuss their reliability. The development of a large network of information processing and computing centers in the Soviet Union has led to the utilization of existing and new communication channels for the transmission of digital data. The reliability requirements for such transmission are much more stringent than for the transmission of verbal data since the digital numerical information is not naturally redundant. The following communication links are used at present: municipal automatic telephone networks, automatic teletype networks, semi-automatic and automatic intercity telephone networks, voice frequency-carrier telegraph links, and supersonic

Card 1/2

table-

SUB CODE: 17/ SUB-

Card 2/2

Determination of silicon in a degreasing bath. K. I. [illegible] and O. G. Zhemdareva. U.S.S.R. 102,750, Mar. 25, 1957. In a bath contg. Na_3PO_4, alkali, and Si compds., Si is detd. by converting Si [illegible] HCl taken in excess and titrating the excess HCl [illegible] ted as indicator. [illegible]

AUTHOR: Frantsuzova, T. A. SOV/32-24-9-34/53

TITLE: An Apparatus for the Determination of Carbon Monoxide (Pribor dlya opredeleniya okisi ugleroda)

PERIODICAL: Zavodskaya Laboratoriya, 1958, Vol 24, Nr 9, pp 1144-1145 (USSR)

ABSTRACT: The apparatus described was designed for investigations in mines. For this reason, it had to be so built as to enable investigators to carry out air analyses without having to move into the polluted atmosphere. The measuring sensitivity must conform with the sanitary standards (0,0016% CO). The design was devised by B. A. Sosnovskiy, V. M. Zapol'skiy, T. A. Frantsuzova, V. G. Borisenko, V. T. Tyupa and P. M. Marner. The operation of the device is based on an oxidation of carbon monoxide to carbon dioxide by atmospheric oxygen, in the presence of hopcalite, and on a measurement of the reaction heat. The temperature increase produced by the resulting heat is measured by iron-constantan thermo-couples connected with a sensitive galvanometer of the type M-91. The measuring range of the device is specified to be from 0,00025 to 0,24% CO. Diagrams of the arrangement and of the heating chamber are given. The latter consists of a cylinder of stainless steel surrounding a second

Card 1/2

cylinder of hard rubber. The thermo-pile enclosed by the cylinders consists of 45 (of the above mentioned) thermo-couples. A table of the test results obtained with this apparatus is also presented.
There are 2 figures and 1 table.

ASSOCIATION: Nauchno-issledovatel'skiy gornorudnyy institut, Krivoy Rog (Scientific Research Institute of Mining, Krivoy Rog)